Chapter 4 Economic Freedom, Democracy, and Life Satisfaction

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1 Introduction

For a long time, the main economic interest of politicians and scientists has been to focus on the determinants of growth and income as a means of providing guidelines for the policymaking process. Due to the relative scarcity of available information on factors such as life satisfaction, this was quite a natural starting point; and it was driven by some obvious questions on differences in cross-country living standards: What important features distinguish between fast- and slow-growing countries? Why have some nations with a rather low capital stock achieved much higher growth rates than others despite better starting conditions? In the quest for answers, recent research suggests the general quality of institutions is one of the most important factors for long-term growth and economic development. In particular, empirical studies have provided overwhelming evidence that economic freedom and deregulation of markets have a positive impact on growth and income.[1]

In a parallel manner, improved material well-being in industrialized societies has changed people's attitudes towards income, and more weight has recently been ascribed to the non-monetary aspects of the Western economic and social order. Together with the recurrent criticism of GDP as an imperfect, flawed, and perhaps even misleading measure of welfare, this shift in values is reflected in current political attempts to create alternative indicators to reflect the "quality of life". A prominent example in this area is the work of the Stiglitz-Sen-Fitoussi Commission (2009), which proposed to add a set of indicators on social and ecological development to the usual growth measures, in order to reflect a country's welfare adequately. Similarly, research on happiness (or life satisfaction)[2] has employed a broader concept of individual welfare for a number of years now. This research allows for the identification of monetary and non-monetary effects upon individual well-being, using survey questions about a person's happiness.

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1   For an overview, see surveys by Berggren (2003) and de Haan et al. (2006).

2   An explanation of both terms is given in the next section.

Typical policy recommendations derived from these investigations aim at a general change in the objectives for policymaking and usually call for more government intervention in the economy. The arguments are generally along the following lines. Free markets may be effective instruments for an optimal allocation of resources, but income only exerts a small effect on people's individual happiness (Frey and Stutzer, 2002).[3] Hence, the policy objective of growth is overrated, especially in the highly developed industrial nations of Europe and North America. Unemployment was also found to be detrimental to life satisfaction, far beyond the pure income loss that is associated with losing one's job (Frey, 2008). From this viewpoint, providing people with government-created employment would enhance "welfare" in almost any case. In addition, environmental quality contributes considerably to individual life satisfaction, even if people do not report any willingness to pay for the avoidance of damages (e.g., Silva et al., 2012).

As a consequence of this line of argument, the economics of happiness usually tends to favor government interventions over market-friendly policies, for the sake of raising citizens' subjective well-being or overall welfare. The positive effects of economic freedom appear to be limited to benefits that are incorporated into the price system and income growth. Besides the potential correction of market failures, regulatory activities seem to provide additional non-monetary benefits.

Recent research on happiness finds that this kind of reasoning systematically overestimates the welfare effects of government interventions, while underestimating the benefits of economic freedom, democratic decision-making, and deregulation for individual well-being. These effects seem to be considerable. A more balanced perspective would recognize these non-monetary effects on personal well-being and incorporate them into this relatively young field of economic research. In the following, we will focus on the happiness outcomes of economic freedom and democracy, showing that there is indeed a welfare effect derived from living in an economically free and politically democratic society that goes well beyond its pure income-enhancing effects. This pattern is confirmed by simple cross-country comparisons. The individual well-being associated with economic freedom is valued by people in its own right, above and beyond the material wealth that it produces for society.

2 What is happiness or life satisfaction?

Generally speaking, the economics of happiness is the theoretical and quantitative study of subjective well-being, life satisfaction, or related concepts. It typically combines economics with other fields, such as psychology and sociology. Empirical studies on the economic determinants of happiness normally make use of large-scale surveys, such as the World Values Survey (WVS), to measure the overall life satisfaction of individuals or groups. In a series of six waves, the WVS has interviewed different people in a large number of countries since the early 1980s, employing a very similar methodology in every wave. Responses can be analyzed on an individual level or they can be aggregated at the country level, thereby relating them to a host of individual and social determinants of happiness.

The following question is adopted in the WVS survey: "All things considered, how satisfied are you with your life as a whole these days?" Respondents answer on a ten-point scale, ranging from dissatisfied (1) to satisfied (10). Though some have

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3 It is likely that cross-sectional studies suffer from rather severe endogeneity problems. Natural experiments and instrumental variable techniques tend to indicate much larger effects.

questioned whether people answer this question truthfully and whether responses are comparable across individuals and countries, there is now a widespread consensus among scholars that these measures capture relevant and comparable information on human well-being (e.g., Frey, 2008). In recent years, these important objections to happiness surveys have been largely ruled out.

The reader will note that we have so far used the terms "happiness" and "life-satisfaction" interchangeably, even though they refer to two different survey questions that measure very similar concepts. In fact, both are considered to reflect a notion that has become known as subjective well-being. Throughout the whole chapter, we will only employ the question about life satisfaction for empirical analysis. Both concepts are so closely related that they are often referred to interchangeably in the literature but we will use "life-satisfaction" when discussing our empirical work.

The life-satisfaction data in this chapter stems exclusively from the integrated file of the European Values Study and the World Values Survey (2009), which is freely available to all users. Generally, the surveys are all conducted for a representative sample of the adult population of each country. Therefore, the country mean of life satisfaction can be viewed as a rough measure of "national happiness". We employ average country values, which is also the approach taken by many other scientists,[4] though this information is clearly not as detailed as data on an individual level. Nonetheless, comparing microdata results by Helliwell (2003), who analyzes individual responses, with those of country averages by Helliwell and Huang (2008) suggests that national averages are good approximations for individual happiness across countries.[5] In other words, we use average country life satisfaction for our empirical comparisons, assuming that values are representative of the "average individual" in a certain country.
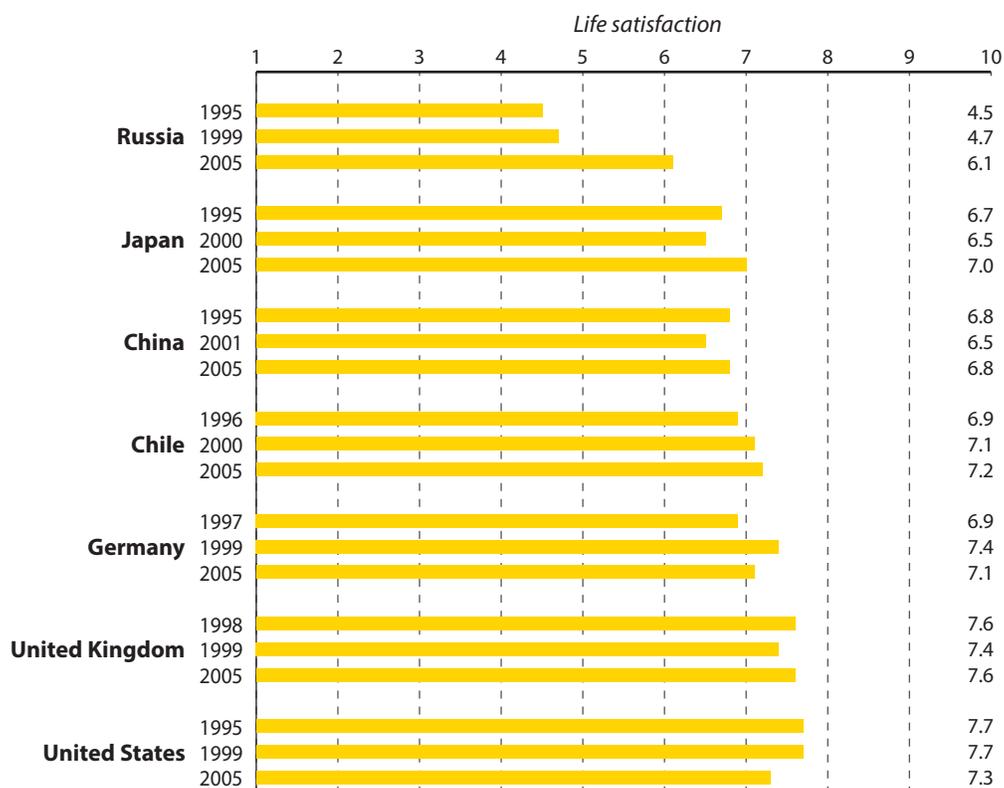
Regarding the life-satisfaction scale, the WVS reports the results of its life satisfaction question in two ways: as a share of the population answering in the top three categories, or as the mean value corresponding to the ten-point scale. The first arguably makes responses more insensitive to cultural differences in answering, while the latter could contain more statistical information. According to the findings of Bjørnskov et al. (2010), both methods produce very similar results. As our objective is to make comparisons between the life satisfaction of different nations, we will use country averages throughout this chapter.

Overview of life satisfaction in seven countries

Having clarified some of these rather academic questions on the general significance of our inquiry and the aggregation of microdata, we now give an overview of happiness across different nations and over time. Figure 4.1 illustrates some stylized facts, comparing the average life satisfaction of a selection of seven countries over the course of roughly ten years. These are: Russia, Japan, the People's Republic of China, Chile, Germany, the United Kingdom, and the United States. The time frame we are looking at is pretty much the decade between 1995 and 2005, which is covered by the last three waves of the WVS. In part, these nations were chosen precisely because life satisfaction data for them is available for all three of these waves. Furthermore, they offer a selection of important industrial nations and developing

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4   For example, Helliwell and Huang (2008), Bjørnskov et al. (2010).

5   Even taking into account individual policy preferences does not notably change the large similarity between microdata and country averages, as shown by Knoll et al. (2013).

Figure 4.1: The distribution of life satisfaction across the world and time

Life satisfaction

		Life satisfaction
Russia	1995	4.5
	1999	4.7
	2005	6.1
Japan	1995	6.7
	2000	6.5
	2005	7.0
China	1995	6.8
	2001	6.5
	2005	6.8
Chile	1996	6.9
	2000	7.1
	2005	7.2
Germany	1997	6.9
	1999	7.4
	2005	7.1
United Kingdom	1998	7.6
	1999	7.4
	2005	7.6
United States	1995	7.7
	1999	7.7
	2005	7.3

Source: World Values Survey, 2009.

countries from a variety of continents. The years observed coincide with some very relevant political and economic developments and, as a consequence, some astonishing patterns are easily visible to the reader.

Each horizontal bar in figure 4.1 represents average life satisfaction of the corresponding country and survey year, labeled on the left hand side. First, let us focus our attention on comparing life satisfaction across different countries. Here, it can be seen that there are some quite significant differences in average life satisfaction across the world. For example, with a score of 4.5 in 1995 people in Russia are substantially less happy than those in all other nations of our sample. Most authors ascribe this phenomenon to the political, social, and economic instability, caused by the breakdown of the USSR and the transition to a market economy (e.g., Bjørnskov et al., 2010). In fact, a review by Dolan et al. (2008) identifies per-capita income as the most important variable to explain varying life satisfaction across countries, which would suggest that in this case economic instabilities are largely behind the observed gap.

Nonetheless, it is obviously not simply a question of economic development and income level: comparing the scores of the People's Republic of China (6.8) and that of its much richer neighbor Japan (6.7) in 1995 illustrates this point. The same is true for Chile's average life satisfaction in 1996, as compared to that of the much richer Germany in 1997, where both register an identical score of 6.9. For some reason, most Latin American countries generally have a much higher life satisfaction than their income per capita would predict. So far, there is no convincing explanation for this phenomenon and most authors therefore ascribe it to some unobserved cultural factors (e.g., Inglehart et al., 2008).

Another distinctive feature of our cross-country comparison is that the scores of the United Kingdom and the United States are so much higher, compared to the other countries in our selection. Both the UK score of 7.6 in 1998 and the US score of 7.7 in 1995 reveal countries very close to the happiest in the world; these scores are certainly much higher than those of most industrialized democracies. One goal of research like this is to determine whether this might, at least in part, be due to the fact that especially during the late 1990s both the United Kingdom and the United States were among the most economically free societies around the world.

Regarding the evolution of life satisfaction over time, it can be observed that average life satisfaction in most countries changes only very little over the course of these ten years. The variation is in fact so small that it could be caused by differences in sampling. This coincides with the observation in some studies that under normal circumstances life satisfaction varies to a small degree over time and is surprisingly stable on an individual and cross-country level (e.g., Frey, 2008; Easterlin and Angelescu, 2012). In our graph, the only great exception to this trend is Russia: with scores at only 4.5 in 1995 and 4.7 in 1999, average life satisfaction had been comparatively low in the Russian Federation but then jumped to 6.1 in 2005. This may be a consequence of the widespread political and economic stabilization that the country experienced between 2000 and 2004. Just like individuals, who recover from traumatic experiences and over time return to their base level of life satisfaction, countries might also return to such a base level after going through major economic and political transitions that cause substantial uncertainty and depression among the population.

In the following, a comparison of the world's five happiest countries with the world's five unhappiest countries (table 4.1) reinforces the points made above: while income per capita is the single most important element that determines average national life satisfaction there are a number of other non-monetary factors that have a considerable impact on the patterns observed. The table employs average life satisfaction values from the fourth wave of the WVS, conducted between 1999 and 2001.

According to the average ratings, the world's happiest countries were Denmark, Ireland, and Malta, all with an average score of 8.2. Close behind in fourth position was Iceland, with a score of 8.1. This does not really come as a surprise, as all four are small European nations with comparably high GDP per capita. Except for Malta, all of them also show high levels of economic freedom and little regulation. In the case of Denmark, and to some degree Iceland, they are also characterized by very high social trust. According to Bjørnskov (2003), this informal institution with strong historical and cultural roots is the principal reason behind their elevated national life satisfaction. On the other hand, to find that Mexico also has a score of 8.1 for life satisfaction might be a surprise to the reader. Mexico is not known to be an economically and politically stable high-income country, but its relative rank simply reflects the positive life-satisfaction effect of Latin America.

Of the world's five countries with the lowest level of life satisfaction during the same time period, three are post-communist countries that were part of the USSR before 1992. Roughly ten years after the demise of the latter, Russia exhibits a score of 4.7 while Moldova and the Ukraine follow closely behind with a score of 4.6. Interestingly, in terms of income none of these three is among the poorest 25% of the fourth WVS wave: Russia and Moldova have levels of per-capita GDP similar to those of many of the larger Latin American nations of the sample. This again shows

Table 4.1: Nations with the highest and lowest levels of life satisfaction

Greatest life satisfaction		Least life satisfaction	
Denmark	8.2	Russia	4.7
Ireland	8.2	Moldova	4.6
Malta	8.2	Ukraine	4.6
Iceland	8.1	Tanzania	3.9
Mexico	8.1	Zimbabwe	3.9

Source: World Values Survey, 2009: fourth wave.

that income is obviously only one important factor among many that influence average life satisfaction. Perhaps just as relevant, Russia and Ukraine show some of the lowest EFW scores of the whole sample, and all three countries were under autocratic rule.

Only two countries were less happy at this point in time: Tanzania and Zimbabwe, which have an average life-satisfaction score of only 3.9. While both are among the poorest countries of the world, they were still substantially unhappier than a number of other low-income African nations such as Ethiopia (5.0), Rwanda (5.0), and Uganda (5.6). In comparison with these, both Zimbabwe and Tanzania also exhibited extremely low levels of economic freedom and both are known for their notoriously repressive political regimes.

3 The relation of life satisfaction to economic freedom, democracy, and income

Some of the overall life-satisfaction patterns across the world were described in the previous section; this section describes the estimation model and explains the construction of the dataset. In the following, we turn to the overall relationship between life satisfaction and income, life satisfaction and political regimes, and life satisfaction and economic freedom.

The choice of control variables for our baseline model follows the specification of Bjørnskov et al. (2010), using *Social trust*, *Average memberships*, *Importance of God*, *GDP per capita*, the *Unemployment rate*, and the *Divorce rate*. This model was originally specified by Helliwell (2003). *Social trust* is added as a good proxy for informal institutions (Bjørnskov, 2003).[6] If it is not included in the model, the effect of formal institutions might be overestimated. *Social trust* is measured as the percentage of respondents answering "yes" to the WVS question: In general, do you think most people can be trusted? It is expected to exert a positive effect on life satisfaction.

The model employs two further control variables from the WVS: *Average memberships* is an index derived from the number of memberships that citizens report having in nine types of voluntary organizations. According to Helliwell (2003) and Bjørnskov et al. (2010), it captures the effect of social capital as networks and is expected to have a positive influence on life satisfaction. In turn, *Importance of God* is supposed to measure the intensity of religious beliefs. Research by positive

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6   The model is further identical to the one by Rode (2013).

psychologists indicates intensity of beliefs to be of great importance for individual happiness (Frey, 2008). It is measured as the average of citizens' responses to the following question: How important is God in your life? Interviewees answer on a ten-point scale, ranging from not at all important (1) to very important (10). We expect it to be positively related to life satisfaction.

Due to the importance of income as a source of life satisfaction, *GDP per capita* is also included in the basic model. Generally, the relation between income and life satisfaction seems to be complex and a lot of research has been undertaken to clarify contradicting theoretical assumptions. Results largely suggest positive but diminishing marginal returns of income on happiness (Clark et al., 2008). This means that beyond a certain income level the importance of money for happiness will relatively diminish. As a consequence, the variable is introduced in a logarithmic form and in our model we expect it to show a positive relation with life satisfaction. Purchasing power parity (PPP) standards are used for two reasons. First, since high inflation also seems to reduce life satisfaction, as highlighted by Dolan et al. (2008), using PPP will account for relatively recent changes in income that are due to inflation, without having to introduce another flow variable to the model. Second, in most cases, what matters to individuals is the quantity of goods that their income will buy, rather than what they earn in nominal terms.

Another important economic control variable is the *Unemployment rate* (Frey, 2008). According to Dolan et al. (2008), unemployment is one of the greatest depressors of individual life satisfaction and it mainly affects the people who actually lose their job. Nonetheless, Helliwell (2003) demonstrates that it also has an important impact on a societal level: observing high unemployment in society depresses citizens' happiness, even if the observer has not lost his or her own job. National unemployment rates are used in this investigation, as they should adequately capture both effects. Unemployment is expected to have a negative impact on life satisfaction.

Marriage is another important determinant of individual happiness and being married is strongly associated with life satisfaction (Stutzer and Frey, 2006a). In contrast, being divorced or separated is associated with some of the lowest levels of happiness. To account for this fact, national divorce rates are incorporated into the basic model and they are expected to exert a negative impact on life satisfaction.

Regarding political institutions and economic freedom, a number of authors have argued that the utility derived from political and economic participation is potentially large and we should therefore expect countries with a high degree of democratization or economic freedom to show higher levels of life satisfaction, other factors being equal. This seems to be the case: according to previous studies democracy and economic freedom are positively related to happiness.[7]

Economic freedom is measured by the EFW index published in *Economic Freedom of the World: 2012 Annual Report* (Gwartney et al., 2012). To distinguish between political regimes, we use the democracy-dictatorship (DD) dataset by Cheibub et al. (2010). According to its creators, the DD dataset avoids the problems inherent in the Freedom House rating or Polity IV scores, which they argue are based on overly subjective evaluations and inadequate operational rules. Cheibub et al. (2010) claim that the middle categories of the Freedom House and Polity IV variables add little

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7 E.g., Stutzer and Frey (2006b), Ovaska and Takashima (2006), Dorn et al. (2007), Knoll et al. (2013), and Rode (2013).

Table 4.2: Descriptive statistics and data sources for key variables

| Variable	Mean	SD	Min	Max	Source
Life Satisfaction	6.60	1.05	3.90	8.30	World Values Survey, 2009
Social trust	0.26	0.15	0.03	0.74	World Values Survey, 2009
Average memberships	0.08	0.06	0	0.31	World Values Survey, 2009
Importance of God	7.33	1.93	3.60	10	World Values Survey, 2009
GDP per capita (PPP)	14.239	12.233	423	62.591	World Bank, 2010
Unemployment rate	9.27	6.48	0.6	40	World Bank, 2010
Divorce rate	1.72	1.20	0.20	7.40	United Nations, 2001, 2010
Economic freedom	6.59	1.04	3.44	8.64	Gwartney et al., 2012
Democracy	0.77	0.42	0	1	Cheibub et al., 2010

information useful in distinguishing between political regimes. They also argue that, contrary to frequent practice, the two measures are not interchangeable in regression analysis. As an alternative, they propose a dichotomous variable that takes the value of one, if a country's legislative and executive offices are chosen by contested and popular elections, and zero, otherwise.[8]

Data for *Life satisfaction*, *Social trust*, *Average memberships*, and *Importance of God* are taken from the last three waves of the WVS. From this we constructed a pooled dataset of 87 countries and 160 observations for empirical analysis. Control variables that do not stem from the WVS are all from the corresponding survey year. An overview of the variables, descriptive statistics, and sources is given in table 4.2.

Life satisfaction and income

Turning to the overall relationship of life satisfaction with income, political regimes, and economic freedom, the remainder of this section graphically relates these variables for an approximation. Figure 4.2 connects life satisfaction to per-capita income in terms of purchasing power parity. The 160 country observations in our dataset are divided into three groups: the first group consists of countries with a per-capita GDP below $7, 500; countries in the second group all have an annual GDP per capita between $7,500 and $15,000; and the third group, an annual GDP per capita above $15,000. We then calculated the corresponding average life satisfaction for each group. As one can observe in figure 4.2, countries with an annual per-capita income below $7,500 also have the lowest average life-satisfaction score of 5.98. Life satisfaction in the second group is somewhat higher, showing a life-satisfaction level of 6.45 for countries with an annual income between $7,500 and $15,000. As one would expect, the group of countries with an income above $15,000 is also the happiest, having an average life-satisfaction score of 7.37. These differences are quite notable, especially if we consider that the standard deviation of the whole

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8 Reproducing different studies, Cheibub et al. (2010) further show that the choice of a democracy measure in different empirical studies does matter, and that it has important implications for the results obtained.

Figure 4.2: Life satisfaction and income
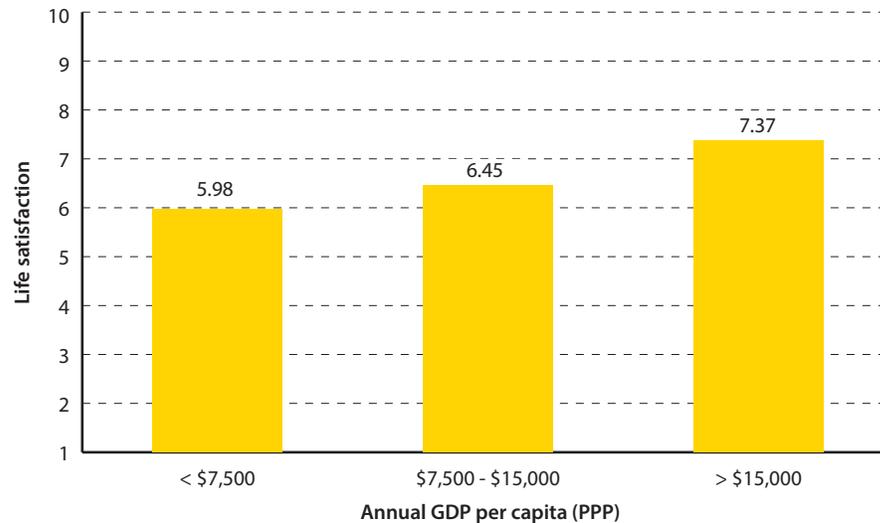
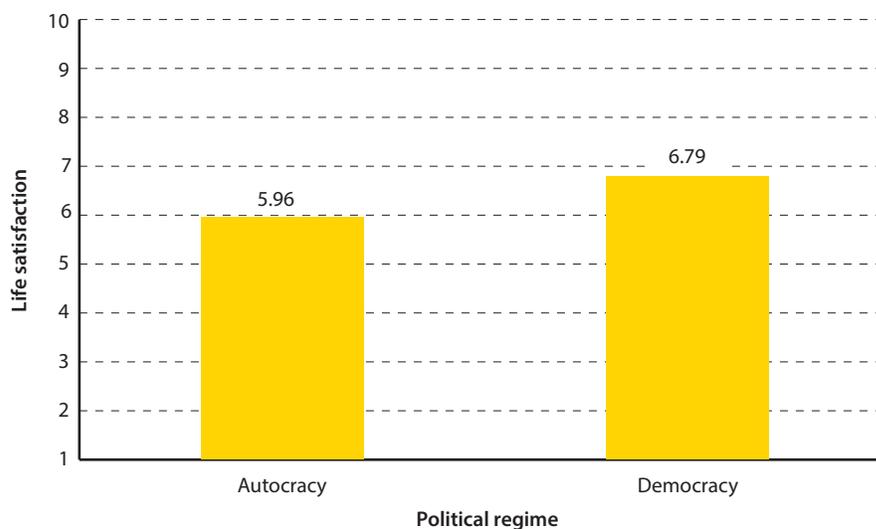Sources: World Values Survey, 2009; World Bank, 2010.

sample is only 1.05. So, as we have already stated, the impact of per-capita GDP for national life satisfaction is considerable, even though there are other variables that influence this relationship.

## Life satisfaction, democracy, and autocracy

Just as impressive as the average differences in life satisfaction among income groups is the asymmetry between different political regimes. The latter is illustrated in figure 4.3. Here, we divide the countries of our dataset into autocracies and democracies, according to the DD variable by Cheibub et al. (2010). This exercise demonstrates that the life satisfaction of democratic nations is substantially above the level found in autocracies. According to our dataset, the average life-satisfaction score of autocratic countries is 5.96. In turn, the average life-satisfaction score of democratic countries is 6.79. The difference suggests that the potential utility derived from free and fair elections is large and significant for the average citizen. One might speculate that the positive effect for happiness will be stronger, the more institutionalized the democracy. This is obviously not captured by the binary DD variable. Similarly, it also seems plausible that, the more repressive an autocratic regime, the larger the expected detrimental effect on life satisfaction will be.

Life satisfaction and economic freedom

Finally, all observations in the dataset are divided into three groups, according to their level of economic freedom. The first group consists of countries that have a score on the EFW index below 6; countries of the second group have EFW scores between 6 and 7.5, and countries in the third group have an EFW score above 7.5. As with the different income categories, we calculate the corresponding average life satisfaction for each group. As one can observe in figure 4.4, countries with a score for economic freedom below 6 also have the lowest average life-satisfaction score of 5.85. Life satisfaction in the second group is somewhat higher: the average life-satisfaction score is 6.61 for countries with an economic freedom score between 6 and 7.5. The group of countries with an economic freedom level above 7.5 is also the

Figure 4.3: Life satisfaction and political regime

Sources: World Values Survey, 2009; Cheibub et al., 2010.

Figure 4.4: Life satisfaction and economic freedom
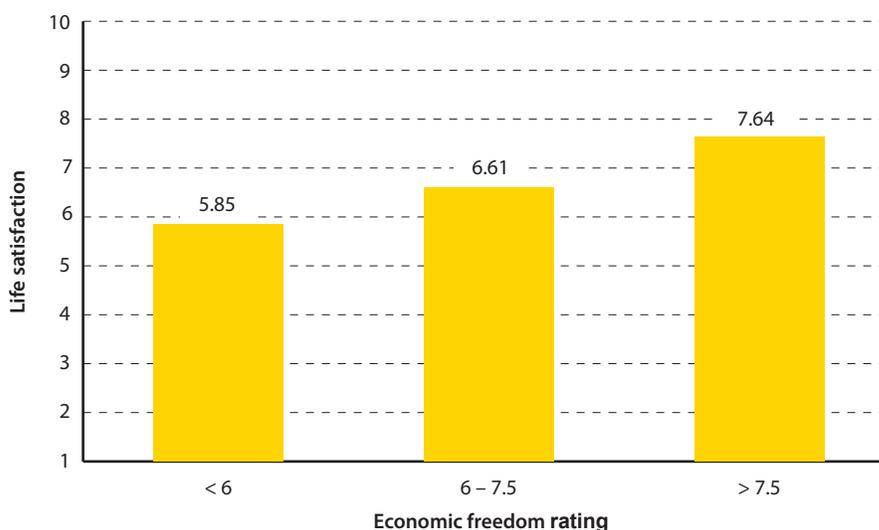
Sources: World Values Survey, 2009; Gwartney et al., 2012.

happiest, with an average life-satisfaction score of 7.64. Again, these differences are quite notable and they suggest that there is an intrinsic value to living in an economically free society. Of course, the observed life-satisfaction effect might be driven by the high correlation between EFW scores and GDP per capita, which is not controlled for in these simple graphics. This issue will be dealt with in the next section.

4 Economic freedom, democracy, and life satisfaction

In this section, the relationship between economic freedom and democracy on the one hand and life satisfaction on the other is analyzed empirically. The estimated model has the following functional form:

$$LS_{i,t} = \beta_0 + \beta_1\, EFW_{i,t} + \beta_2\, X_{i,t} + u_{i,t}$$

where β_0 is a constant term, $X_{i,t}$ is a vector of control variables, and $u_{i,t}$ is an error term for country i in period t. With this model, we can simultaneously control for the effect of our variables on life satisfaction, and we do not have to be overly concerned about the effect of one variable really being reflected by another. Put differently, we are filtering out the independent impact of economic freedom on life satisfaction, while simultaneously taking into account the impact of all other variables described above (e.g., GDP per capita). In terms of the functional model, the economic freedom effect will be indicated by the coefficient β_1. Regarding methodology, the impact of economic freedom on average national life satisfaction is estimated with ordinary least squares analysis, using robust standard errors to account for possible heteroscedasticity.

Equation 1

Estimation results that use the basic model are shown in table 4.3. In equation 1, all variables from the baseline specification are highly significant and present the expected sign. *Social trust*, *Average memberships*, *Importance of God*, and *GDP per capita* are all positively associated with life satisfaction, which tentatively means that an increase in one of these factors will also increase average national life satisfaction, other factors being equal. In turn, *Unemployment rate* and *Divorce rate* are negatively associated with life satisfaction, meaning that an increase in one of these variables has the potential to reduce average life satisfaction, all else being equal. Our results therefore highlight the relevance of social capital and informal institutions for life satisfaction, as is also shown by Bjørnskov (2003) and Bjørnskov et al. (2010).

Turning to our main variables of interest, the EFW index and the DD variable for democracy are both positive and highly significant (1% level) as determinants of the variation in average life satisfaction. The coefficients illustrate that a one unit increase in economic freedom, which is exactly the variable's standard deviation, is associated with an almost 0.3 points higher average life satisfaction. Therefore, a one standard deviation shock in economic freedom, which roughly amounts to the difference between the United States and Japan in the year 2000, corresponds to an increase in life satisfaction of about three percentage points, all else being equal. In turn, a transition from an autocratic to a democratic regime is associated with an increase in average life satisfaction of about 0.4, which is about the average difference in life satisfaction between the autocratic Singapore and the democratic Great Britain.

Regarding the fit of our basic model, one can observe at the bottom of equation 1 that the adjusted R^2 is 0.58. This means that the paradigm currently explains 58% of the variation in cross-country average life satisfaction.

Equation 2

In equation 2, two period dummies are introduced to account for joint macro-trends in the data. We take 1995 as a reference point and control for the years 2000 and 2005. This leaves our estimation results practically unchanged: all variables, including economic freedom and democracy, remain significant with the expected sign and their coefficients are almost identical. Of the two period dummies, only the year 2000 is significant at the 10% level.

Equation 3

In equation 3, two regional dummy variables are introduced, one for Latin America, and another for post-communist countries. They control for the already mentioned fact that Latin American countries systematically present higher levels of

Table 4.3: Basic outcomes for economic freedom

Dependent variable: Life Satisfaction

	(1)	(2)	(3)	(4)
Economic freedom	0.283 ***	0.295 ***	0.240 ***	0.225 ***
	(3.579)	(3.711)	(3.063)	(2.755)
Democracy	0.406 ***	0.388 **	0.311 **	0.308 **
	(2.728)	(2.580)	(2.262)	(2.248)
Social trust	1.499 ***	1.510 ***	1.732 ***	1.763 ***
	(3.622)	(3.767)	(4.092)	(4.218)
Average memberships	1.958 *	2.098 *	1.117	1.281
	(1.735)	(1.956)	(1.136)	(1.311)
Importance of God	0.171 ***	0.172 ***	0.061	0.060
	(3.600)	(3.479)	(1.583)	(1.519)
log GDP per captia (PPP)	0.453 ***	0.447 ***	0.365 ***	0.421 ***
	(5.053)	(4.964)	(4.714)	(3.456)
Unemployment rate	−0.020 **	−0.016 *	−0.009	−0.007
	(−2.134)	(−1.714)	(−0.971)	(−0.743)
Divorce rate	−0.157 **	−0.150 *	−0.118 **	−0.117 **
	(−2.057)	(−1.906)	(−2.411)	(−2.365)
Latin America			0.883 ***	0.878 ***
			(5.183)	(5.105
Post-communist			−0.453 **	−0.445 **
			(−2.385)	(−2.319)
Period 2000		−0.230 *		−0.053
		(−1.732)		(−0.407)
Period 2005		−0.025		0.105
		(−0.184)		(0.866)
Adj. R^2	0.58	0.58	0.68	0.68
F-Statistic	49.2	37.9	47.3	38.3
N	160	160	160	160
Countries	87	87	87	87

Note: all regressions include a constant term; t-statistics in parentheses; * significant at 10%; ** significant at 5%; *** significant at 1%.

unexplained life satisfaction, while post-communist countries systematically present lower levels of life satisfaction (Inglehart et al., 2008). Studies by Bjørnskov et al. (2010) and others show these dummies to be highly significant in similar models, making them an adequate tool to control for unexplained cultural differences in cross-country life satisfaction levels.

Unlike the period dummies, these regional controls result in slight changes in the estimation results: the variables *Average memberships*, *Importance of God*, and

Unemployment rate become insignificant in this model. At the same time, the coefficients associated with *GDP per capita*, *Economic freedom*, and *Democracy* are somewhat smaller. Both regional dummies are highly significant and present the expected sign. Living in Latin America has a strongly positive impact on life satisfaction, while living in a post-communist country exerts a strongly negative impact. In addition, the introduction of the regional controls raises the adjusted R^2 to 0.68, meaning that this model explains 68% of the cross-country variation in average life satisfaction.

Furthermore, the introduction of these dummies eliminates the significance of the control variables *Average memberships*, *Importance of God*, and *Unemployment rate*: The communist regimes of Eastern Europe were known for their anti-religious ideology, which would explain the connection to the control variable for overall religiosity. Furthermore, the breakdown of these regimes is known to have left many countries in the region without a functioning volunteer infrastructure and a crumbling civil society, both of which are factors that are intimately associated with the variable for *Average memberships* (Meier and Stutzer, 2008). In addition, these countries have experienced high unemployment rates as a consequence of changing from a communist to a market-based economy. It seems that the introduction of the post-communist dummy variable would be picking up these three factors, at least in part.

Equation 4

Finally, equation 4 jointly introduces both period and regional dummies. Results are almost identical to equation 3: variables *Average memberships*, *Importance of God*, and *Unemployment rate* again become insignificant, while coefficients for *GDP per capita*, *Economic freedom*, and *Democracy* are somewhat lower. Both regional dummy variables are again highly significant, while the period dummies are not. Also in this model, the R^2 remains at 0.68.

Influence of economic freedom and democracy on life satisfaction

Having laid out the general dynamics of economic freedom and democracy on life satisfaction, this leaves us with an open question regarding the total influence of both variables on life satisfaction. As mentioned above, it is quite well known that economic freedom fosters long-term growth and thereby produces higher per-capita income (Pitlik, 2002; Berggren, 2003; de Haan et al., 2006; Rode and Coll, 2012). In addition, unemployment is known to be consistently lower in economically free societies (Feldman, 2010). It is more debatable whether democratic institutions also generate similar indirect effects, but there is some research indicating that this is the case (Rodrik, 2000; Benyishay and Betancourt, 2010; Rode and Gwartney, 2012). If economic freedom and democracy simultaneously exert an independent impact on GDP per capita and unemployment rates, and both of these are in turn responsible for higher average ratings of life satisfaction, then our research design in table 4.3 does not capture the total impact of economic freedom and democracy on life satisfaction. Part of their effects on life satisfaction will flow through the impact of higher per-capita GDP and lower rates of unemployment. Put differently, economic freedom and democracy will exert an indirect effect on life satisfaction as the result of their impact on GDP per capita and on the rate of unemployment. Our model will not register these indirect effects and, as a result, it will tend to understate the full impact of economic freedom and democracy on life satisfaction.

To assess the complete contribution of economic freedom and democracy to variations in life satisfaction across countries, we employ a methodology used

by Gwartney et al. (2006) to deal with a similar problem: estimation of the full impact of economic freedom on the growth of real GDP, including the indirect effects through investment. These authors used a residual model to capture the total impact of economic freedom on cross-country growth rates, including the indirect effects transmitted through private and public investment. As one would expect, the resulting coefficients for economic freedom on growth were higher when estimated by a procedure that captured the indirect effects through investment as well as the direct effects through improved efficiency and higher productivity. In the following, we employ a similar research design to capture the direct and indirect effects of economic freedom and democracy upon life satisfaction.

Estimation results that make use of this technique are shown in table 4.4. Following Gwartney et al. (2006), we first estimate the independent impact of our basic model on GDP per capita (equation 1) and on the unemployment rate (equation 2); then we use the residuals from both estimations to explain life satisfaction (equation 3).

Equation 1

Equation 1 takes the logarithm of GDP per capita in PPP terms as dependent variable. The independent variables are identical to the life satisfaction model except, of course, for both of the economic variables. It can be observed in equation 1 that in this specification *Social trust* does not significantly explain cross-country variations in income. *Average memberships* and *Importance of God* both present a significantly negative relationship with income per capita, the first at the 10% level and the second at the 1% level. In the case of *Average memberships*, an explanation for the negative sign might be that many underdeveloped countries in the WVS show surprisingly high levels of memberships in different societal organizations. It is yet unclear as to why this is the case. Something similar is true for the *Importance of God*, which mainly has high levels in developing countries. This result coincides quite well with the common logic that religious beliefs among the population are reduced in the process of economic development. In turn, *Divorce rate* shows a positive and significant relation with income per capita at the 10% level. This also makes sense as a more liberal relation among the sexes and divorce is more common in economically affluent countries. Both *Economic freedom* and *Democracy* are highly significant and positively related to income per capita, as one would expect. Of course, it is important to keep in mind that our estimation procedure can say nothing about causality in all of these cases.

Equation 2

Equation 2 uses the unemployment rate as dependent variable. Here, *Social trust* and *Average memberships* show a significantly negative association with unemployment, the first at the 10% level and the second at the 1% level. Theoretically, it would make sense that countries with higher levels of social trust have fewer unemployment problems, as a consequence of reducing information asymmetries that can lead to failure of labor markets. In an analogous manner, it also seems plausible that countries with higher average memberships in voluntary organizations have lower unemployment rates. This should largely be a consequence of a well-functioning volunteer infrastructure, which might absorb individuals who would otherwise be on the labor market. The two remaining control variables, the *Importance of God* and the *Divorce rate* are unrelated to unemployment. This is also true for our *Democracy* variable, which has no statistically significant relation with unemployment across

Table 4.4: Compound outcomes of Economic Freedom

Dependent variable:	Log GDP per capita (PPP)	Unemployment rate	Life satisfaction
	(1)	(2)	(3)
Economic freedom	0.505 ***	−0.870 *	0.529 ***
	(7.700)	(−1.702)	(8.916)
Democracy	0.565 ***	0.140	0.659 ***
	(3.407)	(0.087)	(4.510)
Social trust	0.165	−6.741 *	1.707 ***
	(0.396)	(−1.875)	(4.252)
Average memberships	−1.778 *	−17.890 ***	1.508
	(−1.835)	(−6.795)	(1.342)
Importance of God	−0.205 ***	−0.046	0.079 *
	(5.931)	(−0.151)	(1.842)
Residual log GDP per capita			0.453 ***
			(5.053)
Residual unemployment			−0.020 **
			(−2.134)
Divorce rate	0.101 **	−0.140	−0.108
	(2.115)	(−0.313)	(−1.407)
Adj. R^2	0.63	0.08	0.58
F-Statistic	48.3	6.1	49.2
N	160	160	160
Countries	87	87	87

Note: all regressions include a constant term; t-statistics in parentheses; * significant at 10%; ** significant at 5%; *** significant at 1%

countries. In turn, *Economic freedom* shows the expected negative sign, being significant at the 10% level. This means that economically freer countries indeed show lower unemployment rates in our sample.

Equation 3

The residuals from equations 1 and 2 were then incorporated into equation 3. This procedure includes in the model the values of GDP per capita and unemployment that are not correlated with *Economic freedom* and *Democracy*. In turn, the indirect impact of *Economic freedom* and *Democracy* on *Life satisfaction* through per-capita income and unemployment will now be captured by the coefficients for the *Economic freedom* and *Democracy* variables. Therefore, the coefficients for these variables in equation 3 will reflect both their direct and indirect effects on *Life satisfaction*. The first works via intrinsic evaluations of having a free life (e.g., Knoll et al., 2013), while the second is due to the economic improvements of being free.

Comparing equation 3 of this table with equation 1 from the previous table, the signs, coefficients, and significance levels of all control variables, including *GDP per capita* and the *Unemployment rate*, are practically identical. Only the coefficients for

Economic freedom and *Democracy* are substantially higher. In the case of economic freedom, the impact rises from 0.28 to 0.53. This indicates that a one standard deviation shock in economic freedom has the potential to raise average life satisfaction by more than 5 percentage points via direct and indirect channels. This roughly amounts to the difference in average life satisfaction between the United States and Italy in 2000. Like the United States, Italy is also a Western industrial society, meaning that both do not differ overly in terms of income per capita. In terms of economic freedom, Italy scores much lower than the United States though, reflecting Italy's especially large public sector and its comparatively high levels of labor market regulation. Both have been shown to influence cross-country levels of life satisfaction. In the case of democracy, the impact rises from 0.41 to 0.57. Likewise, this indicates that a change from autocratic to democratic leadership could raise average life satisfaction by almost 6 percentage points, when taking into account the direct and indirect effect. While the estimated joint effects of economic freedom and democracy on life satisfaction across countries are not huge, they are substantial. On a more intuitive level, they demonstrate the welfare generated by living in an economically free and democratic society.

5 Conclusions

For a long time, economic happiness research has focused on the question: "Does money make people happy?" This is an important and interesting subject, but it has certainly not made use of the full potential that measures of life satisfaction have to offer for economic investigation. As a consequence, researchers have broadened the scope of questions in recent years, asking if political, social, and economic events might produce outcomes that have an impact that goes beyond pure monetary effects. For example, periods of unemployment are not only detrimental for life satisfaction due to the loss of labor income and the reduced consumption levels of the unemployed. They have additional psychological welfare effects both for those who are unemployed and for those who observe more unemployment in society.

The quality of economic and political institutions matters for life satisfaction basically for two reasons. First, free markets, and possibly also democracy, are important determinants of growth, thereby contributing to life satisfaction via higher income levels and lower unemployment rates. Second, risk aversion and freedom of choice as values in themselves may explain why positive effects on life satisfaction remain, even after controlling for income levels and other socioeconomic variables. This non-monetary impact seems to be quite important for the individual and collective evaluation of welfare. Economic freedom, therefore, not only makes people richer, but it also makes them happier.

References

Benyishay, A., and R.R. Betancourt (2010). Civil Liberties And Economic Development. *Journal of Institutional Economics* 6: 281–304.

Berggren, N. (2003). The Benefits Of Economic Freedom. A Survey. *The Independent Review* 8: 193–211.

Bjørnskov, C. (2003). The Happy Few: Cross-Country Evidence on Social Capital and Life Satisfaction. *Kyklos* 56: 3–16.

Bjørnskov, C., A. Dreher, and J.A.V. Fischer (2010). Formal Institutions and Subjective Well-Being: Revisiting the Cross-Country Evidence. *European Journal of Political Economy* 26: 412–430.

Cheibub, J.A., J. Gandhi, and J.R. Vreeland (2010). Democracy and Dictatorship Revisited. *Public Choice* 143: 67–101.

Clark, A., P. Frijters, and M.A. Shields (2008). A Survey of the Income Happiness Gradient. *Journal of Economic Literature*, 46, 95-144.

De Haan, J., S. Lundström, and J.E. Sturm (2006). Market-Oriented Institutions and Policies and Economic Growth: A Critical Survey. *Journal of Economic Surveys* 20: 157–191.

Dolan, P., T. Peasgood, and M. White (2008). Do We Really Know What Makes Us Happy? A Review of the Economic Literature on the Factors Associated with Subjective Well-being. *Journal of Economic Psychology* 29: 94–122.

Dorn, D., J.A. Fischer, G. Kirchgassner, and A. Sousa-Poza (2007). Is it Culture or Democracy? The Impact of Democracy and Culture on Happiness. *Social Indicators Research* 82: 505–526.

Easterlin, R.A., and L. Angelescu (2009). *Happiness and Growth the World Over: Time Series Evidence on the Happiness-Income Paradox*. IZA Discussion Paper 4060 (March). Institute for the Study of Labor (IZA), Bonn, Germany. <http://ftp.iza.org/dp4060.pdf>.

Frey, B.S. (2008). *Happiness: A Revolution in Economics*. MIT Press, Cambridge.

Frey, B.S., and A. Stutzer (2002). What Can Economists Learn from Happiness Research? *Journal of Economic Literature* 40: 402–435.

Gwartney, J.D., R. Holcombe, and R. Lawson (2006). Institutions and the Impact of Investment on Growth. *Kyklos* 59: 255–273.

Gwartney, James, Robert Lawson, and Joshua Hall (2012). *Economic Freedom of the World: 2012 Annual Report*. Fraser Institute.

Helliwell, J.F. (2003). How's Life? Combining Individual and National Variables to Explain Subjective Well-being. *Economic Modelling* 20: 331–360.

Helliwell, J.F., and W. Huang (2008). How's Your Government? International Evidence Linking Government and Well-being. *British Journal of Political Science* 38: 595–619.

Inglehart, R., R. Foa, C. Peterson, and C. Welzel (2008). Development, Freedom, and Rising Happiness. A Global Perspective 1981-2007. *Perspectives on Psychological Science* 3: 246–285.

Knoll, B., H. Pitlik, and M. Rode (2013). A Note on the Impact of Economic Regulation on Life Satisfaction. *Applied Economics Letters* 20: 916–920.

Meier, S., and A. Stutzer (2008). Is Volunteering Rewarding in Itself? *Economica* 75: 39–59.

Ovaska, T., and R. Takashima (2006). Economic Policy and the Level of Self-perceived Well-being: An International Comparison. *The Journal of Socio-Economics* 35: 308–325.

Pitlik, H. (2002). The Path of Liberalization and Economic Growth. *Kyklos* 55: 57–80.

Rode, M., and S. Coll (2012). Economic Freedom And Growth. What Policies Matter the Most? *Constitutional Political Economy* 23: 95–133.

Rode, M., and J. Gwartney (2012). Does Democratization Facilitate Economic Liberalization? *European Journal of Political Economy* 28: 607–619.

Rode, M. (2013). Do Good Institutions Make People Happy, or Do Happy Citizens Build Better Institutions? *Journal of Happiness Research*, forthcoming.

Rodrik, D. (2000). Institutions for High-Quality Growth: What They Are and How to Acquire Them. *Studies in Comparative International Development* 35: 3–31.

Silva, J., F. de Keulenaer, and N. Johnstone (2012). *Environmental Quality and Life Satisfaction: Evidence Based on Micro-Data*. OECD Environment Working Papers no. 44. Paris.

Stiglitz, J., A. Sen, and J.P. Fitoussi (2009). *Report by the Commission on the Measurement of Economic Performance and Social Progress*. <http://www.stiglitz-sen-fitoussi.fr/documents/rapport_anglais.pdf>.

Stutzer, A., and B.S. Frey, B.S. (2006a). Does Marriage Make People Happy, or Do Happy People Get Married? *The Journal of Socio-Economics*, 35: 326–347.

Stutzer, A., and B.S. Frey (2006b). Political Participation and Procedural Utility. *European Journal of Political Research* 45: 391–418.

United Nations (2001). *1999 Demographic Yearbook.* Department of Economic and Social Affairs.

United Nations (2010). *2008 Demographic Yearbook.* Department of Economic and Social Affairs.

World Bank (2010). *World Development Indicators.*

World Values Survey (2009). *European and World Value Surveys Five-wave Integrated Data File, 1981-2005.* The European Values Study Foundation and World Values Survey Association. <www.worldvaluessurvey.org>.